

## **Appendix E- Tables**

State	Number of sites with WIFL territories 1993-01 <sup>2</sup>	Percentage of sites with WIFL territories 1993-01	Number of territories <sup>3</sup>	Percentage of total territories
Arizona	95	43 %	359	36 %
California	77	35 %	256	26 %
Colorado	5	1 %	37	4 %
Nevada	10	5 %	73	7 %
New Mexico	32	15 %	258	26 %
Utah	2	1 %	3	0.3%
Texas	?	?	?	?
Total	221	100 %	986	100 %
<sup>1</sup> Sogge <i>et al.</i> 2002. <sup>2</sup> Site boundaries are not defined uniformly throughout the bird's range. <sup>3</sup> Total territory numbers recorded are based upon the most recent years survey information from that site between 1993 and 2001.				

Table 1. Rangewide population status for the southwestern willow flycatcher based on 1993 to 2001 survey data for Arizona, California, Colorado, New Mexico, Nevada, Utah, and Texas<sup>1</sup>.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rio Grande	12	22	26	40	31	13	29	74	70	130
Chama	2	4	2	5	4	3	no	no	4	no
							survey	survey		survey
Canadian	2	3	3	4	2	5	unk	17	1	3
Gila	8	126	144	153	196	231	255	156	155	196
Zuni	3	4	3	5	6	6	6	4	unk	3
San Francisco	2	0	no	no	no	no	no	no	no	no
			survey	survey	survey	survey	survey	survey	survey	survey

Table 2. Number of territories by drainage of southwestern willow flycatchers in New Mexico 1993-2002

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Taos Junction	1	0	no	1	no	0	no	0	0	0
Bridge			survey		survey		survey			
Orilla Verde	2	1	1	2	2	0	0	1	0	0
Velarde, La	?	1	3	3	2	0	0	1	1	0
Canova										
Velarde,	no	no	1	1	1	1	1	0	0	0
Garcia	survey	survey								
Acequia										
Velarde, La	no	no	1	1	1	1	1	0	0	0
Rinconada	survey	survey								
Velarde, El	no	no	no	1	1?	no	no	0	no	0
Guique	survey	survey	survey			survey	survey		survey	
San Juan	2	4	4	12	10	no	no	16	no	no
Pueblo						survey	survey		survey	survey
Isleta Marsh	no	3	4	3	no	no	no	16	no	no
	survey				survey	survey	survey		survey	survey
Casa Colorada	no	no	no	no	no	no	no	no	no	1
	survey	survey	survey	survey	survey	survey	survey	survey	survey	
La Joya	no	no	no	no	no	no	no	1	7	6
	survey	survey	survey	survey	survey	survey	survey			
Sevilletta	no	no	no	no	no	no	4	6	4	6
NWR	survey	survey	survey	survey	survey	survey				
Bosque Del	3	4	2	4	3	3	2	1	1	5
Apache										
San Marcial to	1	11	7	10	11	9	20	25	25	62
Elephant Butte										
Selden Canyon	no	no	no	no	no	no	5	3	no	3
	survey	survey	survey	survey	survey	survey			survey	
Radium	1	no	no	2	no	no	1	3	no	5
Springs		survey	survey		survey	survey			survey	

Table 3. Number of willow flycatcher territories at known sites along the Rio Grande in New Mexico

Agency	Purpose	Time period	Take Permitted
NMESFO (Sec 10)	Captive propagation and salvage	Per year	Unlimited
NMFRO (Sec 10)	Collection for captive propagation	Per year	500,000 eggs or larvae
	Collection for spawning and brood stock	Per year	1000 adults
	Captive propagation	Per year	1,000,000 eggs or larvae
	Maintain in captivity at NMFRO and Bosque del Apache Refuge	Per year	20,000 juveniles or adults
	Stock into river	Per year	500,000
	Provide minnows to other facilities	Per year	5,000
Corps (Sec 10)	Salvage (coordinated with Service)	Per year	Unlimited
	Collection for voucher specimens	Per year	50
Reclamation (Sec 10)	Maintain in captivity for scientific investigations	Per year	500 (200 may be killed)
	Collection for voucher specimens	Per year (June 1 – August 31)	100 per site
		Per year (September 1 – May 31)	100
City of Albuquerque (Sec 10)	Collection for voucher specimens	Per year	100
	Captive propagation	Per year	Unlimited
NMDGF (Sec 10)	Collection for voucher specimens	Per year	1,000 per site
	Captive propagation	Per year	50,000 (20,000 may be killed)
NMSU Coop Unit (Sec 10)	Captive propagation and scientific investigations	Per year	50,000 (20,000 may be killed)
UNM (Sec 10)	Collection for voucher specimens	Per year (May 1 – August 31)	500 per site
		Per year (September 1 – April 31)	100 per site
	Collection for quantification during spawning	Per year	100,000 eggs
	Collection for controlled propagation	Per year	Unlimited eggs
	Collection for spawning and brood stock	Per year	2,000
	Collection for genetic purposes	Per year	300 (30 may be killed) 1000 larval fish
Yankton USGS-BRD (Sec 10)	Maintain in captivity for scientific investigations (toxicity testing)	Per year	5,000 (2,000 may be killed)
Multiple agencies (Sec 7)	2001 Programmatic Water Operations Biological Opinion	2001 – 2003	100,000 (500 adults found dead; 750 juveniles found dead)

Table 4. Silvery minnow take associated with current section 10 and section 7 permits.

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Chama	2	4	2	5	4	3	no survey	no survey	4	no survey
Taos Junction Bridge	1	0	no surve y	1	no surve y	0	no survey	0	0	0
Orilla Verde	2	1	1	2	2	0	0	1	0	0
Velarde, La	?	1	3	3	2	0	0	1	1	0
Canova										
Velarde, Garcia	no survey	no survey	1	1	1	1	1	0	0	0
Acequia										
Velarde, La	no	no	1	1	1	1	1	0	0	0
Rinconada	survey	survey								
Velarde, El	no	no	no	1	1?	no	no	0	no	0
Guique	survey	survey	surve y			survey	survey		survey	
San Juan	2	4	4	12	10	no survey	no survey	16	no survey	no survey
Puelo										
Isleta Marsh	no survey	3	4	3	no surve y	no survey	no survey	16	no survey	no survey
Casa	no	no	no	no	no	no	no	no	no	1
Colorada	survey	survey	surve y	surve y	surve y	survey	survey	survey	survey	
La Joya	no	no	no	no	no	no	no	1	7	6
	survey	survey	surve y	surve y	surve y	survey	survey			
Sevilletta NWR	no	no	no	no	no	no	4	6	4	6
	survey	survey	surve y	surve y	surve y	survey				
Bosque Del Apache	3	4	2	4	3	3	2	1	1	5
San Marcial to Elephant Butte	1	11	7	10	11	9	20	25	25	62
Selden Canyon	no survey	no survey	no surve y	no surve y	no surve y	no survey	5	3	no survey	3
Radium Springs	1	no survey	no surve y	2	no surve y	no survey	1	3	no survey	5

Table 5. Estimate of southwestern willow flycatcher territories within the Middle Rio Grande

Year	Territories adjacent to or within Elephant Butte Reservoir/ Delta	Total Territories	Pairs	Nests
1994	0	11	8	5
1995	0	8	5	5
1996	7	20	3	1
1997	9	10	3	2
1998	7	11	4	2
1999	4	12	5	5
2000	19	23	20	19
2001	22	25	25	36
2002	51	62	52	67

Table 6. The status of breeding willow flycatchers within the San Marcial river reach from 1994–2002 (Mehlhop and Tonne 1994, Henry et al 1996, Ahlers and White, 1995- 1999, Ahlers et al 2000-2002).

Willow Flycatcher Habitat Category	Sevilleta /La Joya	Upper north	Upper south (including Tiffany area)	Lower east	Lower west	Delta	Total
Highly Suitable	217	19	184	255	77	65	817
Suitable	757	85	192	119	35	46	1,234
Marginally Suitable	898	169	729	59	134	6	1,995
Potential	1081	426	183	50	35	37	1,812
Low Suitability	11,204	2,264	2,372	133	1440	1,678	19,091
Total	14,157	2,963	3,660	616	1721	1,832	24,949

Table 7. Hectares of willow flycatcher habitat categories on the Rio Grande between Highway 60 (Bernardo) and the Delta of Elephant Butte Reservoir as it was delineated in 2001(Ahlers et al 2001).

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
<b>Arizona</b>			
Apache Maid Allotment (Yavapai, Coconino)	1995	USFS	None
Tuzigoot Bridge (Yavapai)	1995	NPS	Take of 1 WIFL each year the site is occupied
Windmill Allotment (Yavapai)	1995	USFS	Take of 1 WIFL nest annually for 2 years due to parasitism
Solomon Bridge (Graham)	1995	FHWA	Take of 2 territories
Tonto Creek Riparian Unit (Maricopa)	1995	USFS	Take unquantifiable. Take as a result of parasitism, disturbance, modification of nesting habitat, loss of nesting sites.
Eastern Roosevelt Lake Watershed Allotment (Maricopa)	1995	USFS	Take unquantifiable. Take as a result of parasitism, disturbance, modification of nesting habitat, loss of nesting sites.
Cienega Creek (Pima)	1996	BLM	Take of 1 WIFL nest annually by cowbird parasitism
Glen Canyon Spike Flow (Coconino)	1996	USBR	Take unquantifiable. Take of WIFL habitat, loss of riparian understory habitat
Verde Valley Ranch Development (Yavapai)	1996*	Corps	Take of 2 flycatcher territories
Modified Roosevelt Dam (Gila, Maricopa)	1996*	USBR	Take of 45 territories through habitat removal; take of 90 birds via reduced productivity/survivorship.
Lower Colorado River Operations and Maintenance - Lake Mead to Southerly International Border - AZ/CA/NV (Mohave, La Paz, Yuma)	1997*	USBR	Take unquantifiable. Take as a result of riparian habitat loss and degradation, inundation, reduced productivity and survivorship, nest loss/abandonment, parasitism, recreation, fire, predation.

Table 8. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.



Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
Blue River Road (Greenlee)	1997	USFS	Take unquantifiable. Take of WIFL habitat, feeding, sheltering, increased rates of mortality, starvation, predation.
Skeleton Ridge - Cedar Bench Allotments (Yavapai)	1997	USFS	Take unquantifiable. Take of WIFL habitat.
White Canyon Fire – Emergency Consultation (Pinal)	1997	BLM	Take of 4 WIFL pairs from harassment
U.S. Hwy 93 Wickenburg (Mohave, Yavapai)	1997	FHWA	Harassment of 6 birds in 3 territories and 1 bird killed/decade
Safford District Grazing Allotments (Greenlee, Graham, Pinal, Cochise & Pima)	1997	BLM	Take unquantifiable. Take as a result of parasitism, disturbance, modification of nesting habitat, loss of nesting sites.
Lower Gila Resource Plan Amend. (Maricopa, Yavapai, Pima, Pinal, La Paz, Yuma)	1997	BLM	Take unquantifiable. Take of WIFL habitat. through loss of cottonwood and willow seedlings, bark stripping, and trailing.
Storm Water Permit for Verde Valley Ranch (Yavapai)	1997	EPA	Take unquantifiable. Take in the form of degraded watershed and riparian WIFL habitat, and loss of WIFL habitat due to groundwater pumping and pollutants.
Gila River Transmission Structures (Graham)	1997	AZ Electric Power Coop. Inc.	Take from harassment or harm due to habitat modification, reduced productivity, disturbance, parasitism.
Land and Resource Management Plans for the 11 National Forests and National Grasslands of the Southwestern Region of the U.S. Forest Service (Various AZ and NM)	1997	USFS	None

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
Phoenix Resource Management Plan (Apache, Navajo, Gila, Maricopa, Pinal, Pima, Santa Cruz, Yavapai)	1998	BLM	None
Yuma Resource Management Plan (Yuma, La Paz, Mohave)	1998	BLM	None
Arizona Strip Resource Mgmt Plan Amendment (Mohave)	1998	BLM	Take of 1 nesting attempt every 3 years. Take through parasitism, habitat loss from fire, recreation, development
CAP Water Transfer Cottonwood/Camp Verde (Yavapai, Maricopa)	1998	USBR	Take unquantifiable. Take through parasitism, disturbance, modification of nesting habitat, loss of nesting sites
Cienega Creek Stream Restoration Project (Pima)	1998	BLM	Take of 1 WIFL through harassment
Kearny Wastewater Treatment (Pinal)	1998	FEMA	Take unquantifiable. Take through WIFL habitat loss, modification, harassment.
Fort Huachuca Programatic (Cochise)	1998	DOD	None
SR 260 Cottonwood to Camp Verde (Yavapai)	1998	FHWA	Take unquantifiable. Take as a result of harm, injury, and death as a result of the loss of nesting sites, disturbance, modification of habitat, reduced productivity and survivorship, parasitism, and collision with vehicles.
Wildlife Services beaver trapping activities	1998	Wildlife Services	in consultation
Alamo Dam Reoperation (LaPaz, Mohave)	1998	Corps	Take of a WIFL nest with 2 eggs/fledglings every 20 years due to inundation.

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
Bridge Fire, San Pedro National Conservation Area, Emergency Consultation (Cochise)	1998	BLM	None
Reintroduction of Beaver into the San Pedro NCA (Cochise)	1998	BLM	Take of 1 WIFL nest every 5 years due to beaver, and 1 WIFL nest every 5 years due to flooding increased predation/parasitism
Duncan HWY 75 Bridge over Gila River (Greenlee)	2000	FHWA	None
Red Creek Grazing Allotment (Gila)	2000	USFS	None
Lower Colorado River, Interim Surplus Criteria Criteria/4.4 Plan (Mohave, La Paz, Yuma)	2001	USBR	Take of 372 acres of flycatcher habitat
Mingus Ave Extension, Bridge over Verde River (Yavapai)	2001	Corps	Take of 3.34 acres of flycatcher habitat
Pleasant Valley Grazing Allotment, Apache (Greenlee)	2001	USFS	None
Peck Canyon Scour HWY I-19 protection (Santa Cruz)	2001	Corps	None
Wikieup/Big Sandy Caithness power plant (Mohave)	2001	WAPA/BLM	in consultation

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
The Homestead at Camp Verde Development (Yavapai)	2001	EPA	None
25 grazing allotments on Tonto National Forest (Various)	2002	USFS	None
Eagle Creek watershed grazing allotments -Tule, Mud Springs, Double Circle, East Eagle, Baseline - Horse Spring and Dark Canyon (Greenlee)	2002	USFS	None
Dos Pobres -San Juan project (Graham)	2002	BLM	None
Gila River grazing allotments (Pinal)	2002	BLM	in consultation
Re-initiation of Lower Colorado River Operations and Maintenance - Lake Mead to Southerly International Border - AZ/CA/NV (Mohave, La Paz, Yuma)	2002	USBR	None
Re-initiation of Fort Huachuca Programmatic (Cochise)	2002	DOD	None
Issuance of Section 10 permit for Operation of Roosevelt Dam at Roosevelt Lake HCP (Gila, Maricopa)	2002	SRP	in consultation
Re-initiation of Modified Roosevelt Dam (Gila, Maricopa)	2002	USBR	in consultation

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
U.S. Hwy 93 Wickenburg (Mohave, Yavapai)	2003	FHWA	Harm and harassment of 4 birds in 2 territories from reduced productivity, displacement, reduced survivorship, 2 birds killed/decade, harm and harassment to 2 territories from reduced productivity annually for the next 10 years as a result of predation and brood parasitism
<b>California</b>			
Prado Basin (Riverside/San Bernardino)	1994	Corps	None
Orange County Water District (Orange)	1995	Corps	None
Temescal Wash Bridge (Riverside)	1995	Corps	Take of 2 flycatchers
Camp Pendleton (San Diego)	1995	DOD	Take 4 flycatcher territories
Lake Isabella Operations 1996 (Kern)	1996	Corps	Inundation 700 acres critical habitat; reduced productivity 14 pairs
Lake Isabella Long-Term Operations (Kern)	1997	Corps	Annual inundation of 1,100 ac critical habitat
H.G. Fenton Sand Mine and Levee near Pala on the San Luis Rey River (San Diego)	1997	Corps	None
Re-initiation of Lake Isabella Dam Operation (Kern)	2000	Corps	inundation of 1,100 ac critical habitat and reduced survival and productivity of all nesting pairs and young
Questar's southern trails pipeline, CA, AZ, UT (various)	2000	FERC	?
Mill Creek Diversion, Prado Basin (Riverside)	2000	Corps	None

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
Level 3 long haul fiber optic network, San Diego CA to CA/AZ state line (San Diego, Imperial)	2000	BLM	?
Land and Resource Plans for 4 southern CA National Forests	2001	USFS	Take as described in 1-6-99-F-21, riparian species biological opinion
San Timoteo Creek Reach 3B Flood Control Project (San Bernardino)	2001	Corps	Take of 1 pair of flycatchers and 16.2 ac of flycatcher habitat
CA FDA 5-year permit for malathion use (Imperial, Riverside)	2001	BLM	2 flycatchers
Prado mainstem and Santa Ana River flood control and Norco Bluffs stabilization project (Orange, Riverside, San Bernardino)	2001	Corps	None
Four grazing allotments on San Bernardino NF (San Bernardino)	2001	USFS	None
Re-initiation of Cleveland NF grazing program (Orange, Riverside, San Diego)	2001	USFS	Two parasitized nests/year. Take through parasitism, nest abandonment, loss of eggs/young, degradation of nesting habitat
Highway 71 widening amendment (Riverside)	2002	FHWA	None
<b>Colorado</b>			
AB Lateral - Hydroelectric - Hydropower Facility, Gunnison River to Uncompahgre River (Montrose)	1996	USBR	None
TransColorado Gas Transmission Line Project (Meeker, Colorado to Bloomfield, New Mexico)	1998	BLM	None
Pagosa Area Water and Sanitation District Water Intake (Archuleta County)	2000	Corps	1 pair of flycatchers

Table 8 Continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Action (County)	Year	Federal Agency <sup>1</sup>	Incidental Take Anticipated
US Highway 160/County Road 501 widening - realignment, Bayfield (La Plata County)	2001	FHWA	2 pairs of flycatchers
Archuleta County Rd 119 widening/realignment, Pagosa Springs (Archuleta County)	2001	Corps	1 pair of flycatchers
<b>Nevada</b>			
Gold Properties Resort (Clark)	1995	BIA	Take of 1 flycatcher from habitat loss
Las Vegas Wash, Pabco Road Erosion Control Structure	1998	Corps	Take of 2-3 pairs of flycatchers
<b>New Mexico</b>			
Corrales Unit, Rio Grande (Bernalillo)	1995	Corps	None
Rio Puerco Resource Area (Various)	1997	BLM	None
Taos Resource Area (Various)	1997	BLM	1 pair of flycatchers
Caballo Resource Area (Various)	1997	BLM	None
Farmington District Resource Management Plan (Various)	1997*	BLM	None
Mimbres Resource Area Management Plan (Various)	1997*	BLM	1 pair of flycatchers
Discretionary actions related to water management on the Middle Rio Grande River (various)	2001*	USBR/Corps	None
BIA = Bureau of Indian Affairs; BLM = Bureau of Land Management; Corps = Army Corps of Engineers; DOD = Dept. of Defense; EPA = Environmental Protection Agency; FEMA = Federal Emergency Management Agency; FHWA = Federal Highway Administration; NF = National Forest; NPS = National Park Service; USBR = U.S. Bureau of Reclamation; USFS = U.S. Forest Service; WAPA = Western Area Power Administration.			
* Jeopardy opinions.			

Recovery Unit

Current Number of Territories

Table 8 continued. Agency actions that have undergone formal section 7 consultation and levels of incidental take permitted for the southwestern willow flycatcher rangewide.

Coastal California	186
Basin and Mojave	69
Upper Colorado	3
Lower Colorado	146
Gila	454
<u>Rio Grande</u>	<u>154</u>
Total	1012

Table 9. Minimum number of southwestern willow flycatcher territories based on the most recent available survey data for all breeding sites known to be occupied for at least one year between 1993 and 2001 (2002 for Rio Grande).

Area with known flycatcher sites	2002 territory#/ # of successful nests	Effects of action in dry scenario	Take anticipated harassment/reduced nest success
Chama	1/?	No adverse affect	none
Velarde and Taos	21/unk	No adverse affect	none



Isleta	16/unk	No adverse affect	none
Belen	1/0	drying in May	1/0
Seviletta/La Jolla	12/7	drying in April	12/7
San Acacia to the Refuge	4/0	drying in April	4/0
the Refuge	5/unk	drying in April	5/?
San Marcial sites supported by Rio Grande <sup>1</sup>	19/14	drying in April	19/14
San Marcial sites supported by LFCC <sup>2</sup>	34/55	No adverse affect	34/55

Table 10. Known flycatcher nesting sites along the Rio Grande and anticipated affects of the proposed action.

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<sup>1</sup> Sites: LF-21, 22, 12, 31, 14, 16, 18, DL-3

<sup>2</sup> Sites: FL-17, 17A, DL-West